LAMB'S CREEK BRIDGE
(Burnett's Creek Bridge)
(Morgan County Bridge No. 146)
Spanning Lamb's Creek at Old State Rd. 67 West
Martinsville vicinity
Morgan County
Indiana

HAER No. IN-102

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Department of the Interior
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Location:	Spanning Lamb's Creek at Old State Road 67 West, Martinsville vicinity, Morgan County, Indiana. USGS quad: Martinsville, Indiana (7.5 minute series, 1965 photo-revised 1980). UTM: 16/545180/4363740
Date of Construction:	1893.
Designer:	Wrought Iron Bridge Company, Canton, OH (superstructure).
Contractor:	Wrought Iron Bridge Company.
Owner:	Morgan County Board of Commissioners.
Present Use:	Roadway bridge.
Significance:	The Lamb's Creek Bridge is a rare surviving example of a Pratt through truss bridge, the most common type of metal bridge constructed in Indiana during the late nineteenth-century. It is an excellent example of the work of the Wrought Iron Bridge Company, which supplied more Pratt through trusses to the state than any other Ohio company.
Historian:	Joanne Raetz Stuttgen, Indiana University, April 2000.
Project Information:	This document was prepared as partial fulfillment of the requirements of a graduate course titled "American Architecture, Engineering and Urbanism" taught by Dr. Mark M. Brown at Indiana University, Bloomington, IN. Documentation was donated to HAER and the Indiana SHPO.

Description

The pin-connected Pratt through truss Lamb's Creek Bridge has a span of 85'-0", consisting of five panels 17'-0" long.[1] Deck width is 16'-0". It crosses Lamb's Creek on an approximate east-west alignment. The top chords are built up of laced channels stamped CARNEGIE USA riveted to a solid plate. Four main vertical compression posts are built up of two laced rolled channels. Hip verticals are round rods with eye-pins. Pairs of square rod, eye-pinned diagonal tension members connect the top chord with the bottom chord and deck beams. I-beams and open-grid steel decking make up the deck. Poured concrete abutments support the entire structure. Remnants of an older [chert?] abutment are encapsulated by the c.1925 poured concrete west abutment, and presumably the east abutment as well. Upper sway, portal, and lower lateral bracing stabilize the bridge.

The 51'-0" top chords consist of three 17'-0" sections of two 6" x 2" channels riveted on the top to a solid plate 12" wide and laced together on the bottom. The top chord and inclined end post have a pinned connection.

The main vertical posts consist of two 6" x 2" rolled bars laced together on the inside and outside. The main verticals are riveted to the top chord and attached to the deck beams with U hangers. The hip verticals are round rods 1-1/2 in diameter and eye-pinned at the top and bottom.

The square rod diagonals measure 1-1/2" x 3/4". The rods are cut from rolled sections and the top and bottom eye-pinned rods are hand forged.

Each bottom chord consists of five pairs of 17'-0" rolled, punched, and pinned eye bars spaced 6" apart. Square rod deck hangers measuring 26" long and 1 1/2" thick have hand-forged and threaded ends. The pin connecting all of the pieces is 2 1/4" in diameter.

The one-lane bridge has a 16'-0" roadway. Three I-beam deck girders date to 1975 (beginning with the easternmost girder: L1, L2, L3); the westernmost girder is a 1998 replacement (L4). All girders are 6" deep. Eleven I-beam stringers carry a steel open-grid deck.

The last regular maintenance of the Lamb's Creek Bridge was done in 1975. The steel deck girders, stringers, and deck date to that time. In October 1998, the bridge suffered partial damage under the weight of a loaded tri-axle dump truck. The westernmost girder was replaced,

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[1] All dimensions are based on field measurements made by R. W. Armstrong & Associates, Inc., on May 3, 1998. See *Bridge Inspection Report, Phase I, Morgan County, IN* (Indianapolis, IN: R. W. Armstrong & Associates, Inc., 1998), no pagination. See Morgan County Bridge #146.

along with 32'-0" of decking. The south deck hanger was bent and heat-straightened.[2]

Upper sway bracing consists of crossed diagonal round, eye-pinned rods with turnbuckles. The lower bracing rods are identical but lack turnbuckles. Bracing of intersecting riveted angles is found on both portals; a plaque on the east portal reads

18 93
WROUGHT IRON BRIDGE CO.
BUILDERS
CANTON, OHIO.

History and Significance

The Lamb's Creek Bridge received an Outstanding rating in the Indiana Historic Sites and Structures Inventory.[3] It is representative of a specific type of and period in American bridge engineering, and is further associated with the development of Indiana's modern highway system. A rare surviving example of what was once the most common type of iron bridge in Indiana, the Lamb's Creek bridge is the only remaining Pratt through truss highway bridge in the county and the only historic highway span over Lamb's Creek. Interestingly, it is one of two historic Pratt through trusses located within one mile of each other. The other is a railroad bridge dating to c.1920.

The Lamb's Creek Bridge carries Old State Road 67 West over Lamb's Creek in southeastern Jefferson Township, Morgan County, Indiana. The immediately surrounding land is rich river bottom owned by Jim and Ann Lankford, third-generation owners of a large and successful farm operation. The White River forms the southern and eastern boundaries of the township, and Lamb's Creek bisects the township east and west. Most of the northern section is hilly with heavily forested areas; the southern portion is flood-enriched loam.

Lamb's Creek was formerly known as Burnett's Creek, with the intersecting Martinsville-Gosport Road already well-established by 1860. An earlier bridge appears to have existed. It appears to have been a covered bridge, but no record of its description or construction has been found.[4]

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[2] Personal interview with Keno Koehl, Morgan County Highway Engineer, 28 February 2000.

[3] *Morgan County Interim Report* (Indianapolis: Historic Landmarks Foundation of Indiana, 1993), 46.

[4] The span appears to have been known as both Lamb's Creek and Burnetts Creek bridge and was located on property owned by J[ames] M. Mitchell, a Martinsville merchant and one of the wealthiest men in the county. See the Morgan County plat map for 1860 hanging in the Morgan County Public Library, Martinsville, IN.

On the night of 23 March 1893, a fierce cyclone swept through Martinsville before crossing the White River and heading northwest into Jefferson Township. The weekly *Martinsville Republican* of 30 March 30 1893, ran a near-full front page story about the cyclone in which was reported the destruction of two bridges: the three-span covered bridge over White River (built 1873) and the Burnett's Creek Bridge, lost to the flooding creek.[5]

A side story headlined "COMMISSIONERS AT WORK" reported that Capt. Braden and W. W. Winslow, representatives of the Wrought Iron Bridge Company of Canton, OH, and John Larsh, representative of the Hunt and Adams Co. of Indianapolis, accompanied the commissioners to both bridge sites to assess the immediate need for bridges. Upon returning to Martinsville, they submitted bids for the White River Bridge. The contract was awarded to Wrought Iron Bridge Company for a sum of $14,795, with the bridge to be completed by 15 June 1893. The commissioners' report for this special meeting held 24 March 1893, reveals that the Burnett's Creek Bridge was also contracted to Wrought Iron Bridge Company for $17.50 per lineal foot, or a total of $1422.44. The height was specified to be 86 feet, and the bridge was to be completed in 60 days. The Burnett's Creek Bridge was completed and erected by 1 July 1893, the date payment of $1422.44 was issued to Wrought Iron Bridge Company by the Morgan County Commissioners.[6]

The Wrought Iron Bridge Company of Canton, OH, organized in 1864 by David Hammond, was incorporated in 1871 and absorbed by the American Bridge Company in 1900.[7] According to historian James L. Cooper, it was the largest Ohio supplier of Pratt through truss bridges to the state of Indiana, and among its distinguishing characteristics of bridges of this type–all exhibited in the Lamb's Creek Bridge–are "the cast iron connector through which the diagonal eyebars adjust between the endpost and top chord, the adjustability of all other diagonals and counters, and the laced Ts for the intermediate verticals."[8]

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[5] According to the *Martinsville Republican*, 30 March 1893, the county commissioners, John W. Minton, Isaac Knight, and W. A. Chambers, discussed the possibility of re-using one of the three spans of the White River covered bridge at the Burnett's Creek crossing. Why they did not is unknown.

[6] Morgan County, Indiana, *Commissioners Record* (Office of the Auditor, Morgan County Courthouse Annex, Martinsville), Vol. 18 (1893), 523.

[7] Victor C. Darnell, *Directory of Bridge-Building Companies, 1840-1900* (Washington, D. C.: Society for Industrial Archeology, 1984), 48.

[8] James L. Cooper, *Iron Monuments to Distant Posterity: Indiana's Iron Bridges, 1870-1930* (Greencastle, IN: DePauw University, 1987), 57. See also Darnell, 48.

The Pratt truss was already 20 years old by the time the Wrought Iron Bridge Company was founded, having been patented by Caleb and Thomas Pratt in 1844. The father-and-son engineering team adapted the standard Howe truss by substituting iron for wood, which allowed the major functions of web members to be reversed: the verticals were in compression and the diagonals in tension. This reduced the danger of buckling in the longest web members.[9]

Throughout the nineteenth-century, the Pratt through truss was the most popular metal truss found in America, owing in large part to the development of the railroad system and the iron industry. In 1855, the state legislature established a policy on roadways and bridges that transferred responsibility for their construction and maintenance to county commissioners. By the 1880s, metal became the preferred material for bridges and remained so until about 1905 when it was replaced by concrete.[10]

The establishment of the Indiana State Highway Commission in 1916 led to a systematic, if somewhat slow, improvement in roadways, which were graded and paved, and bridges, which were frequently upgraded to handle increased loads. Still other roads and bridges were bypassed when the state rerouted highways. Such was the case with the Lamb's Creek Bridge on the Martinsville-Gosport Road, which after 1920 became Indiana State Road 67 and was later, in 1939, bypassed by the construction of the modern State Road 67. Since that time, the roadway and the bridge has been under the jurisdiction of Morgan County and is used largely by local residents and farmers.

Recognizing it as a rare surviving example of a once common iron bridge, the Morgan County highway engineer, Keno Koehl, is pursuing federal funding for its preservation.

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[9] Cooper, 55.

[10] Ibid., 2-3, 5-6.

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